

ORIGINAL

WILEY, REIN & FIELDING

1776 K STREET, N.W.
WASHINGTON, D.C. 20006
(202) 429-7000

EX PARTE OR LATE FILED

THOMAS S. DOMBROWSKY, JR.
(202) 429-7236
TDOMBROW@WRF.COM

FACSIMILE
(202) 429-7049

November 9, 1998

Ms. Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
12th Street Lobby, TW-A325
Washington, DC 20554

NOV - 9 1998

Re: Notification of *Ex Parte* Contact in CC Docket No. 94-102

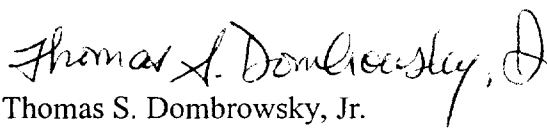
Dear Ms. Salas:

On Friday November 6, 1998, Motorola and its representatives met with members of the Wireless Telecommunications Bureau and the Office of Engineering and Technology to discuss key issues concerning Docket No. CC 94-102. Representing Motorola were Mary Brooner, Brye Bonner, Chuck Eger, and Tom Dombrowsky of Wiley, Rein & Fielding. The Wireless Bureau was represented by Nancy Boocker, Ron Netro, Won Kim and Martin Liebman. The Office of Engineering and Technology was represented by Bruce Franca and Julius Knapp.

The purpose of the discussion was to ensure that the E9-1-1 policy decisions were based upon an understanding of the issues surrounding improvements in wireless E9-1-1 call completion. A handout was provided that has been included as an attachment hereto.

Should any questions arise concerning this *ex parte* notification, please contact the undersigned at (202) 429-7236.

Sincerely,


Thomas S. Dombrowsky, Jr.
Engineering Advisor

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DATE 11/9/98

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Enclosures: Slides on wireless call completion

cc: Bruce Franca
 Julius Knapp
 Nancy Boocker
 Ron Netro
 Won Kim
 Martin Liebman

9-1-1 Call Rate Completion

- All desire the best means to ensure the completion of 9-1-1 calls
- Perceived problem is due to coverage holes
 - Alliance proposed Strongest Signal and then replaced it with Signal Threshold
 - WEIAD proposes A over B, B over A handset programming

Strongest Signal

- **Idea is to force the mobile to find the strongest control channel signal (downlink) before sending 9-1-1**
- This will be accomplished through the handset polling all signaling frequencies to find the strongest
- Software changes needed in the handset to poll for strongest signal are not trivial and have not been standardized by TIA
 - Changes will not cover legacy units
- **From the user's perspective, it will take longer to place a 9-1-1 call**

Strongest Signal

- **Uplink signal strength (mobile to infrastructure) and downlink signal strength are typically different and typically uplink is the weaker signal.**
 - The true need is for the Base Radio (infrastructure) to poll for strongest signal from the handset (uplink) and then send the handset to that signal before completing the 9-1-1 call.
 - Changes to the Base Station (infrastructure) are needed to measure uplink and then send mobile to strongest channel.
 - Changes are needed to the mobile to listen to the base radio and change to the designated channel
- **These changes have not been standardized by TIA nor are they trivial. Base radio, air interface and handset technology must change.**

Strongest Signal

- **APCO, NENA. NASNA concern over the impact to 911 networks.**
 - Strongest signal selected even though there is an adequate channel available from the user's provider and the mobile is already on that channel.
 - Strongest signal may actually reduce the accuracy of phase 1 location information due to larger cells
 - User is not assured of his carrier of choice, which may have more emergency capabilities than the carrier with the strongest signal
 - Concern that one PSAP may be overwhelmed with calls while other PSAPs are underutilized

Strongest Signal for E9-1-1 Phase II

- The strongest signal concept is being considered for E9-1-1 Phase 1 and should not be considered for E9-1-1 Phase 2
 - In Phase 2 there is an expected added delay of the location finding equipment
 - In addition to this added delay there will be added delay while searching for the strongest signal before the location finding can proceed.
- **Intolerable delay to the handset user**

Signal Threshold

- In September 1998 the Alliance proposed a different solution that would eliminate one of the problems with their strongest signal proposal (adequate channel already assigned to 9-1-1 caller).
- The Alliance now asks that all handsets be developed with a signal strength gauge which will be activated when a person dials a 9-1-1 call
- **Standards bodies and not the Alliance should define minimum signal strength threshold for “good” communication**

Signal Threshold

- Public Safety has asked WEIAD and TIA TR45 for technical examination of this proposal.
- Unfortunately problems with “strongest signal” are also problems with “signal threshold”
- **Telecommunications Industry and Public Safety continue to be concerned regarding the impact on 9-1-1 networks**
 - **Phase I location inaccuracies**
 - **Phase II delay in emergency call setup**
 - **Strong downlink signal does not guarantee strong uplink signal**
 - **Strong control signal does not guarantee strong voice signal**
 - **Overuse and underuse of PSAPs**

Adequate Signal and other methods to eliminate problem

- Handsets may be programmed by users to use preferred carrier over secondary carrier (A over B/B over A)

- **Wireless industry should educate users of this capability**

- Tower siting should be encouraged by federal and local authorities

- **Service providers need gov't help to accomplish this goal**

- **Industry standards bodies must be involved**